





## ENHANCING SAFETY AND AESTHETICS IN MODERN BODY PIERCING: A COMPREHENSIVE APPROACH TO HEALTH AND SAFETY

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### INTRODUCTION

Body piercing has evolved from an underground subculture to a globally recognized practice with increasing consumer safety expectations. This paper examines the stringent quality controls essential for body piercing jewelry designed for initial and long-term wear, emphasizing the importance of robust consumer safety standards.

A key focus is the Body Jewelry Verification Program (BJVP), which establishes rigorous compliance benchmarks for materials, manufacturing processes, and testing protocols. Additionally, this paper explores the role of geometric design in ensuring jewelry's functionality, comfort, and safety over time. By bridging historical context, modern verification efforts, and forward-thinking design principles, we advocate for higher industry benchmarks that protect both consumers and practitioners.

Body piercing jewelry is distinct from traditional jewelry in that it is specifically designed for initial piercings and long-term wear. Unlike traditional jewelry, which sits externally or on healed wounds, body jewelry must be engineered to be bio-compatible, resistant to bodily fluids, and capable of withstanding extended wear in a dynamic biological environment. The need for these specialized characteristics has driven the development of stringent material and design standards.

## THE GAUNTLET AND COUNTER-CULTURE INFLUENCE

Modern body piercing owes much of its professional structure to The Gauntlet, the first dedicated piercing studio in the United States, founded by Jim Ward in the 1970s.

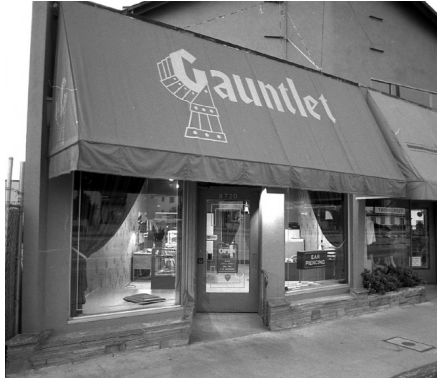


Figure 1: The Gauntlet piercing studio

Ward, along with piercing pioneer Doug Malloy, played a crucial role in shaping the modern body piercing industry. Originating from fetish and underground communities, The Gauntlet formalized piercing techniques and safety practices, separating professional piercing from traditional jewelry stores. However, while The Gauntlet was exclusively a piercing studio, the counterculture of the time made tattoo shops a natural fit for clients interested in body modifications. As a result, body piercing became closely associated with the tattoo industry, further embedding itself into alternative culture.

This connection helped piercers establish themselves, but while many piercing professionals continue to work within tattoo studios, an increasing number of piercing-only studios are emerging worldwide. This reflects the growing recognition of body piercing as a distinct professional field with its own set of technical requirements, safety protocols, and educational standards.

## AEROSMITH AND THE 90s BOOM

The 1990s marked a turning point in piercing's mainstream acceptance, largely due to pop culture moments like Aerosmith's *Cryin'* music video. The video featured Alicia Silverstone getting a piercing from renowned piercer Paul King, capturing the imagination of an entire generation. This cultural exposure

transformed piercing from a subcultural act into a widely recognized form of self-expression, increasing demand for professional practitioners and specialized jewelry.



Figure 2: Still shot from Aerosmith's *Cryin'* music video

Beyond music videos, celebrities and athletes also played a key role in normalizing body piercings. Rockstars like Lenny Kravitz and sports figures like Dennis Rodman proudly displayed their piercings, further pushing body modification into the public eye. Their influence expanded piercing's appeal beyond alternative subcultures and introduced it to a broader audience. This visibility contributed significantly to the piercing boom of the 1990s, shifting perceptions and helping piercers establish careers outside traditional jewelry stores.

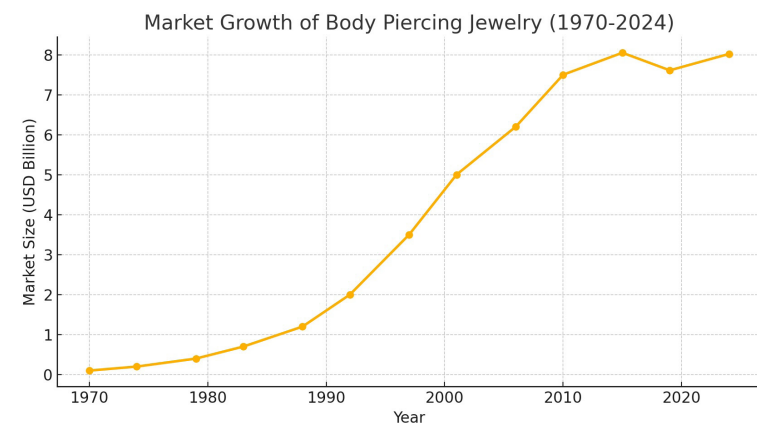


Figure 3: Body-piercing jewelry industry market growth

Body piercing, once relegated to underground subcultures, has transitioned into a widely accepted and increasingly stringently regulated practice. This evolution has brought a heightened emphasis on safety, material integrity, and consumer protection. In the past, jewelry used for body piercing lacked standardization, and issues such as poor material quality, improper geometry, and lack of bio-compatibility testing posed significant risks to wearers. As demand for high-quality jewelry increased, industry professionals recognized the necessity for clear regulations and verification systems to ensure safety.

As concerns about safety and regulation grew, government officials in California attempted to ban body piercing altogether. In response, a group of dedicated piercers formed the Association of Professional Piercers (APP) in 1994, establishing it as a California-based organization. While their initial goal was to fight the proposed restrictions and advocate for industry self-regulation, the APP quickly became dedicated to the dissemination of vital health and safety information about body piercing to piercers, health care professionals, legislators, and the general public. Their efforts not only protected the profession but also laid the foundation for standardized best practices.



Figure 4: The APP Founders

Today, the APP has grown to include more than a thousand members from all over the planet and plays a leading role in legislative efforts to promote safety and best practices in body piercing. The organization maintains one of the most

comprehensive archives of modern body piercing history and hosts the largest and most attended Body Piercing Conference in the world, bringing together industry professionals to further education, innovation, and professional standards. Through experimentation with jewelry types, materials, surface finishes, and mechanical characteristics, the APP and its members have paved the way for the high safety and quality standards seen today.

### THE ROLE OF PIERCERS IN STANDARDIZATION AND MEDICAL DEVICE PARALLELS

The professional body piercing industry has taken an increasingly active role in shaping the standards that govern jewelry safety. Practitioners are not just consumers of jewelry but key stakeholders in ensuring that manufacturers produce materials and designs that meet the highest bio-compatibility and safety expectations. This collective responsibility has led to the widespread adoption of established standards and the development of new verification methods to ensure compliance.

Body piercing jewelry must function in a manner significantly equivalent to medical implants when available, as it remains in contact for extended periods with healing tissue and, in many cases, mucous membranes. Because of this, the industry aligns its expectations with medical device standards to ensure materials and manufacturing processes meet the highest levels of bio-compatibility, corrosion resistance, and long-term stability.



Figure 5: helix ear piercing (left), standard lobe piercings (right)



*Figure 6: jewelry for labret (below bottom lip) piercing (left); standard (above) and inverse (below) navel piercings (right)*

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In the early days of professional body piercing, practitioners had limited access to purpose-built jewelry, often adapting existing pieces from traditional jewelry. This led to concerns regarding bio-compatibility, mechanical failure, and long-term wear safety. The industry's rapid expansion in the late 20th century, combined with a growing understanding of material science, created the demand for standardized, medically recognized materials that could be safely worn in healing and long-term piercings.

As practitioners pushed for safer materials, they turned to metal mills and medical manufacturing standards to source high-quality alloys. These mills, familiar with implantable medical devices, recommended materials that had already undergone rigorous testing for human implantation.

This led to the adoption of ISO 10993, which evaluates materials for bio-compatibility, and the incorporation of ASTM F136 (Titanium-6Aluminum-4Vanadium ELI (Extra Low Interstitial)), F138 (Wrought 18Chromium-14Nickel-2.5Molybdenum), and

ASTM F1295 (Titanium-6Aluminum-7Niobium)—all of which were already standardized for implantable medical applications. These materials became the foundation for body jewelry due to their broad availability, established safety data, and proven success in implantable medical use cases. By aligning with ISO 10993 and ASTM standards used in medical implants, the piercing industry intended to ensure that jewelry materials are subjected to similar scrutiny as those used in surgical implants, reinforcing their safety and effectiveness for extended wear in body piercings.

The industry continues to expand its expectations from jewelry manufacturers. Materials intended for body piercing jewelry should meet ISO 10993 standards for bio-compatibility and, when applicable, any implantable medical material standards such as ASTM F136 and ASTM F1295. These materials were chosen due to their documented safety profiles and their significant equivalence to medical implants, ensuring they can withstand long-term exposure to body fluids, mechanical stress, and tissue integration without degradation or adverse reactions.

#### **THE IMPORTANCE OF SELF-GOVERNANCE, INDUSTRY ACCOUNTABILITY, AND REGULATORY GAPS**

Body piercing jewelry exists in a regulatory gray area, often classified as lightweight jewelry, where most existing regulations do not fully apply. Unlike traditional fine jewelry, which is largely governed by aesthetic and metallurgical standards, body jewelry is in direct contact with open wounds and requires a much higher level of quality control and material verification. Despite this, assaying processes are not as consistently applied as they should be, and many manufacturers do not undergo the same rigorous verification as medical implant manufacturers.

As professional piercers, we bear the responsibility of defining the expectations for the jewelry used in our industry. The rapid growth of body piercing as a profession has made it clear that self-governance is essential for maintaining high standards of safety, quality, and transparency. Unlike traditional jewelry industries, which rely solely on external regulatory bodies, the body piercing industry has taken an active role in setting its own material and design expectations, ensuring that jewelry is not just aesthetically appealing but also engineered for long-term bio-compatibility and durability.

Historically, jewelry companies sold products to piercers without providing verifiable documentation regarding material safety or

quality control. Many manufacturers provided mill certifications from overseas suppliers, often from sources that lacked independent verification processes. This lack of accountability made it difficult to confirm whether the jewelry met the necessary bio-compatibility and structural integrity standards.

Recognizing the urgent need for accountability, transparency, traceability, independent verification, and verifiable compliance, the Body Jewelry Verification Program (BJVP) was developed to create a structured system where manufacturers are held to the highest standards. The BJVP enforces independent third-party testing, material traceability, and adherence to internationally recognized standards such as ISO 10993, ASTM F136, and ASTM F2999. By implementing these stringent verification processes, the program ensures that all jewelry intended for initial piercings and long-term wear meets the most rigorous safety, quality, and ethical production standards.

This initiative is a significant step toward industry-wide self-regulation. By proactively establishing these expectations, we prevent external entities with little understanding of our industry from imposing ill-informed regulations. Instead, we set a precedent for responsible, science-backed material safety and best practices, reinforcing our commitment to consumer protection and professional integrity.

## **MANUFACTURING STANDARDS AND COMPLIANCE IN BODY JEWELRY**

For years, jewelry manufacturers sold products to body piercers without providing verifiable documentation regarding material safety or quality control. Many companies supplied mill certifications from overseas sources, often from facilities that lacked independent verification processes. This absence of transparency created uncertainty, leaving practitioners unable to confirm whether the jewelry they purchased met bio-compatibility and safety standards.

As the industry evolved, small-scale manufacturers transitioned into large-scale production facilities, capable of producing thousands of pieces daily while maintaining high precision and consistency. This shift necessitated the adoption of stringent quality management systems to ensure that every piece of jewelry meets the highest standards of safety and durability.

To ensure compliance with best manufacturing practices, leading

jewelry manufacturers follow ISO 9001 (Quality Management Systems) and ISO 13485 (Medical Device Quality Management Systems). These certifications guarantee traceability, consistency, and adherence to production standards that parallel those used in medical implant manufacturing. By integrating these standards, manufacturers provide reliable documentation, material traceability, and end-user confidence in the safety of their products. When applicable, manufacturers should adhere to ISO 9001 (Quality Management Systems) and ISO 13485 (Medical Device Quality Management Systems). These certifications ensure traceability, consistency, and adherence to rigorous production standards.

Transparency in sourcing and manufacturing is a fundamental expectation for companies producing jewelry intended for initial piercings. This transparency enables practitioners to make informed decisions regarding the products they use and allows consumers to understand that the same quality control measures applied to implantable medical devices are upheld in body jewelry production. This expectation extends to batch testing, chemical composition verification, and proper documentation of compliance with recognized standards. This level of documentation enables practitioners to make informed decisions and allows consumers to understand that the same quality control protocols used for implantable medical devices are applied to body piercing jewelry.

## **EXPANDING STANDARDS FOR LONG-TERM WEARABLES**

Body piercing jewelry standards are complex, and while body piercers would love to trust jewelry manufacturers, accountability and transparency have not always aligned with our reality. Many companies historically provided mill certifications from unverifiable sources, making it difficult to ensure material safety and compliance. Additionally, product data sheets in various forms are not always available or sufficient for practitioners, health departments, and regulatory agencies, creating further obstacles in verifying the safety and compliance of materials used in piercing jewelry.

Recognizing these gaps, the APP Medical team built a verification process in collaboration with manufacturers to create a micro-QC and tracking system for piercing jewelry. This system helps establish supply chain transparency and ensures materials meet rigorous safety standards before being introduced into the market.

## **THE BODY JEWELRY VERIFICATION PROGRAM (BJVP): A NEW STANDARD FOR TRANSPARENCY**

Through the BJVP, manufacturers voluntarily provide mill certifications when available (for materials like steel and titanium) and implement additional quality assurance methods such as in-house XRF testing, batch tracking, and third-party laboratory compliance testing. These documents are submitted to the BJVP system, where they undergo a comprehensive review process. Upon successful verification, manufacturers work with the APP to strengthen their quality controls, and verified companies receive a certification badge, helping piercers and consumers make informed decisions about the jewelry they use.

Since its inception in 2018, the BJVP has become a widely sought-after verification system for body piercers worldwide. Some of the most prominent jewelry brands now produce over 4,000 pieces of piercing jewelry daily, including tops, flat backs, rings, and other essential designs. While trust in manufacturers has historically been assumed, the industry's expectations have evolved—verifiable transparency and accountability are now critical components of a reputable manufacturer.

Today, the BJVP includes 23 manufacturers in Phase 1 (Titanium and Steel) and 15 Phase 2 (Gold and Platinum). While this number may seem small, these companies represent the large majority of the current Piercing jewelry market focus on servicing piercing studios. The impact of stricter testing and tracking has already led to major structural improvements among manufacturers. Companies that previously relied on third-party production have shifted their business models to adopt stronger internal quality controls.

## **THE EVOLUTION OF THE BJVP AND STRENGTHENING INDUSTRY ACCOUNTABILITY**

The BJVP was created to fill a critical gap in the piercing industry, ensuring that jewelry manufacturers uphold the highest levels of transparency, traceability, and material verification. Unlike traditional jewelry, which is often sold with minimal regulatory oversight, body piercing jewelry requires a unique and rigorous quality assurance process due to its direct contact with healing tissue. The program is still young, but its impact is already being felt across the industry. We are actively working with toxicology experts, metallurgical engineers, body piercers, and jewelry manufacturers to develop a robust system of accountability for jewelry used in initial piercings and long-term wearables. BJVP functions as a multi-tiered verification system where manufacturers

voluntarily submit documentation such as mill certifications, in-house XRF testing results, batch tracking records, and third-party laboratory reports for compliance verification. This process allows for greater transparency, providing piercers, health departments, and regulatory agencies with reliable data on the materials used in body jewelry. Additionally, the program actively collaborates with toxicology experts, metallurgical engineers, and jewelry manufacturers to enhance industry-wide accountability and standardization.

While materials such as titanium and steel benefit from established implantable standards, the body piercing industry also incorporates materials like gold alloys, platinum-based materials, and some glass compositions, which do not have direct implantable equivalents but are widely used in body jewelry. To address this gap, ASTM F2999 and ASTM F2923 were developed to establish chemical composition requirements, toxicological safety guidelines, and nickel release limitations for body jewelry. These standards help ensure that materials such as high-karat gold (e.g., 14K, 18K), select platinum alloys, and specific glass formulations are safe for prolonged wear in body piercings.

These standards work in conjunction with ISO 1811 (Nickel Release Testing) and other material safety frameworks to ensure that long-term wearables are chemically safe and structurally sound. Given the complexity of multi-material jewelry, manufacturers must adhere to these guidelines while also considering factors such as corrosion resistance, mechanical properties, and bio-compatibility. However, the lack of consistent regulatory enforcement in the broader jewelry industry has led to inconsistent assaying practices, making it difficult for piercers and consumers to verify compliance. The BJVP addresses these challenges by establishing a structured tracking and reporting system that ensures jewelry intended for initial piercings and long-term wear meets the most stringent safety benchmarks.

The importance of these standards is particularly relevant when considering gold alloys, surface coatings, and alternative metals that may not have a direct medical implant equivalent. By leveraging ASTM and ISO standards, the industry ensures a framework for material safety, even in cases where no single implantable guideline exists. In response to this, ASTM F2999 and ASTM F2923 were developed as consumer safety standards by ASTM Committee F15 to regulate adult and children's jewelry. These standards focus on chemical composition, toxicological safety, and nickel release testing, ensuring that materials used in body jewelry meet stringent safety benchmarks.. These standards,

in conjunction with ISO 1811 (Nickel Release Testing), form a comprehensive blueprint for material safety in piercing jewelry.

As the body piercing industry continues to evolve, programs like the BJVP are becoming increasingly vital in bridging the gap between piercing professionals, jewelry manufacturers, and regulatory bodies. By setting structured safety protocols and demanding higher accountability, the BJVP is not only improving consumer protection but also driving innovation within the industry. By implementing rigorous standards like those set forth in the Body Jewelry Verification Program, the industry can ensure that all jewelry intended for initial and long-term wear meets the highest safety and quality expectations. Through continued innovation in material science, verification protocols, and geometric design, the future of body piercing jewelry will be safer, more reliable, and better suited for wearers worldwide.